

FIG. 1
PRIOR ART

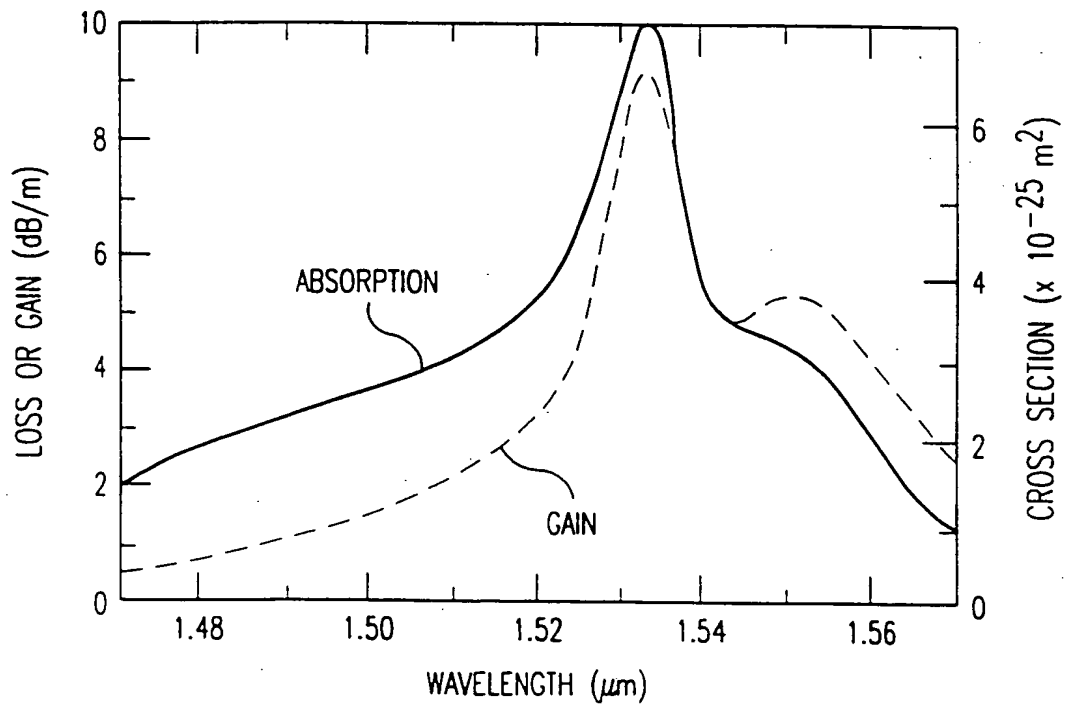


FIG. 2
PRIOR ART

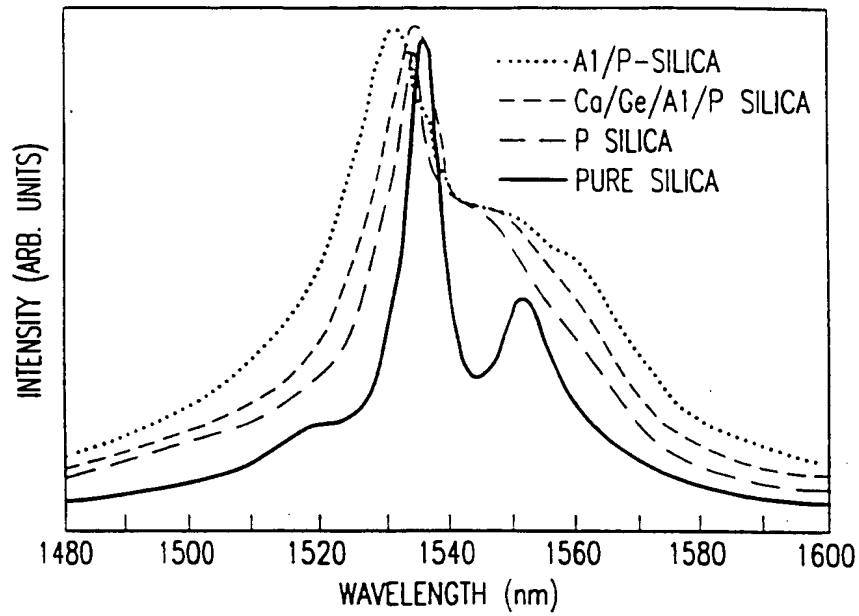


FIG. 3a
PRIOR ART

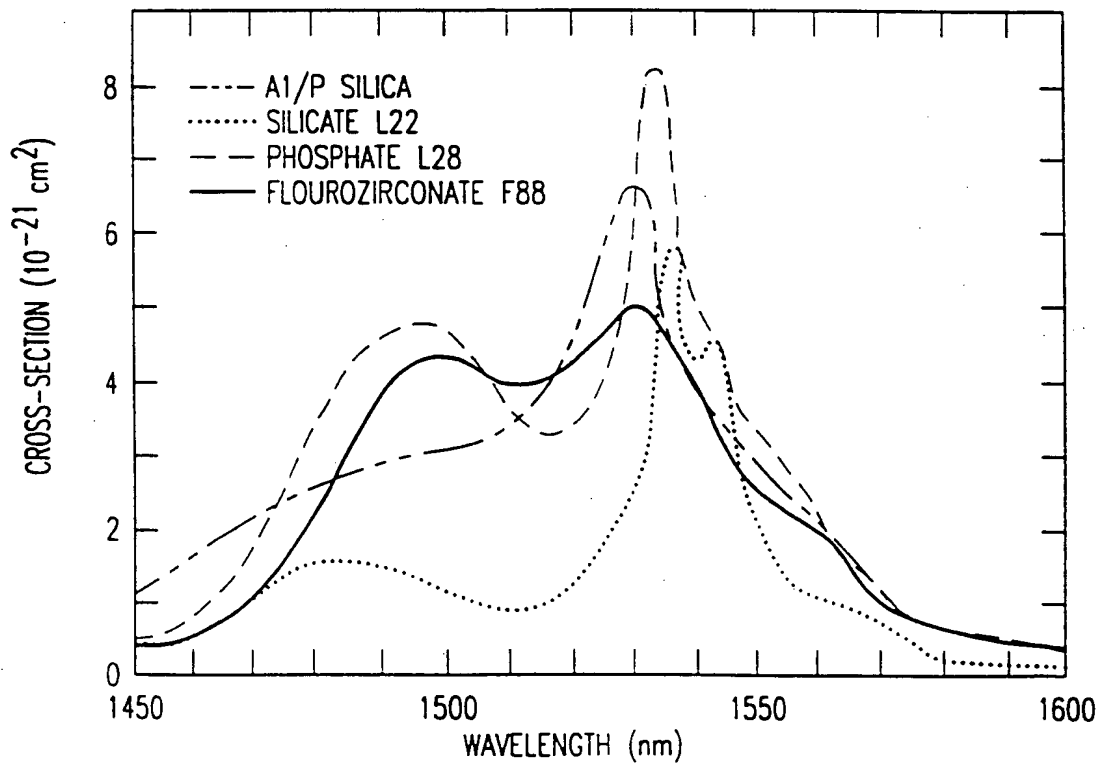


FIG. 3b
PRIOR ART

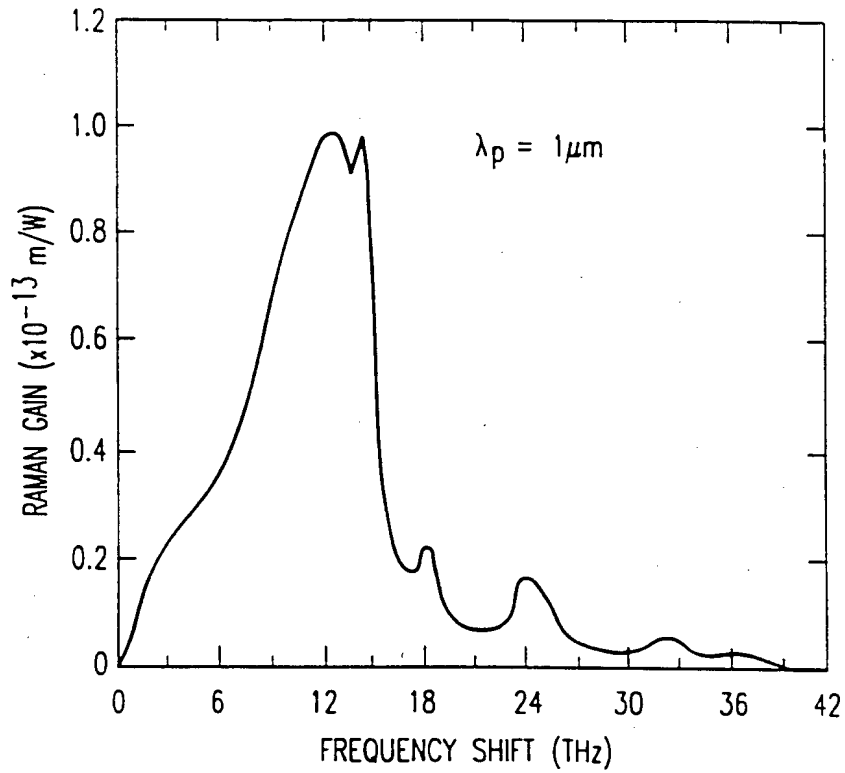


FIG.4
PRIOR ART

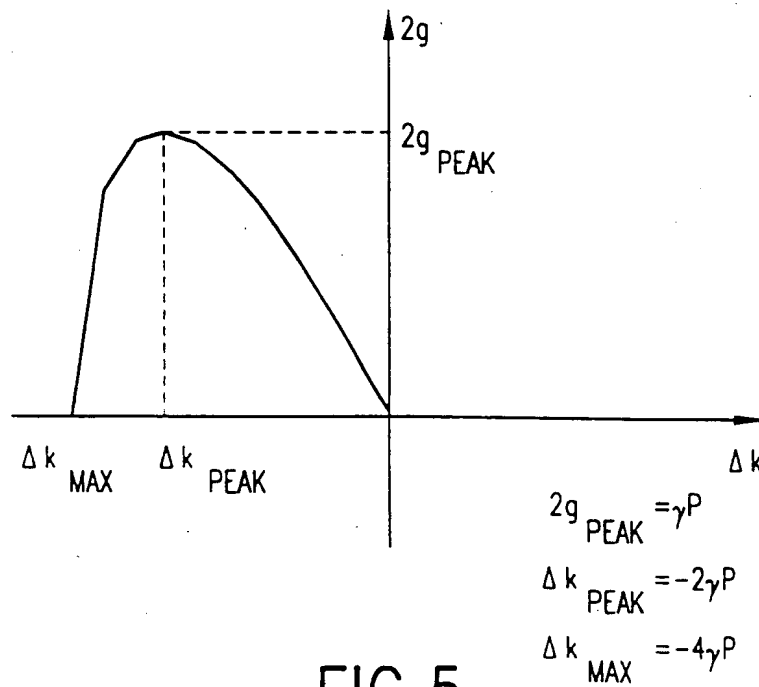


FIG.5

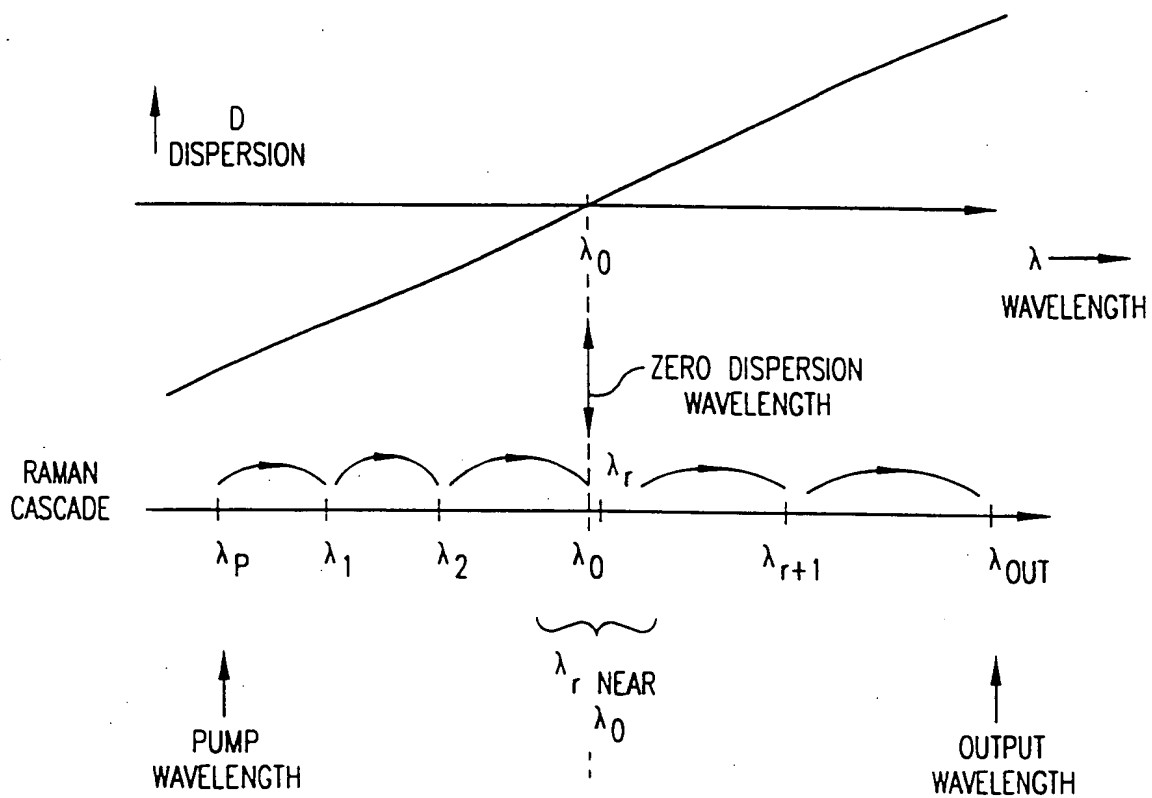


FIG.6

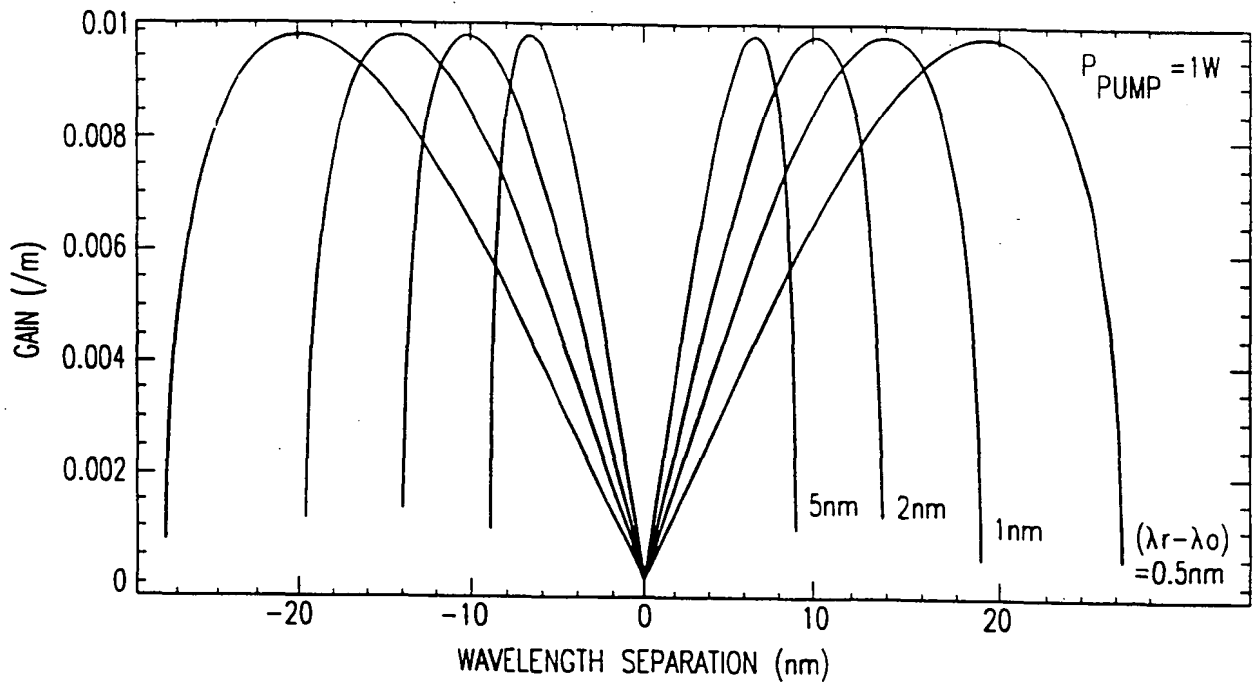


FIG.7

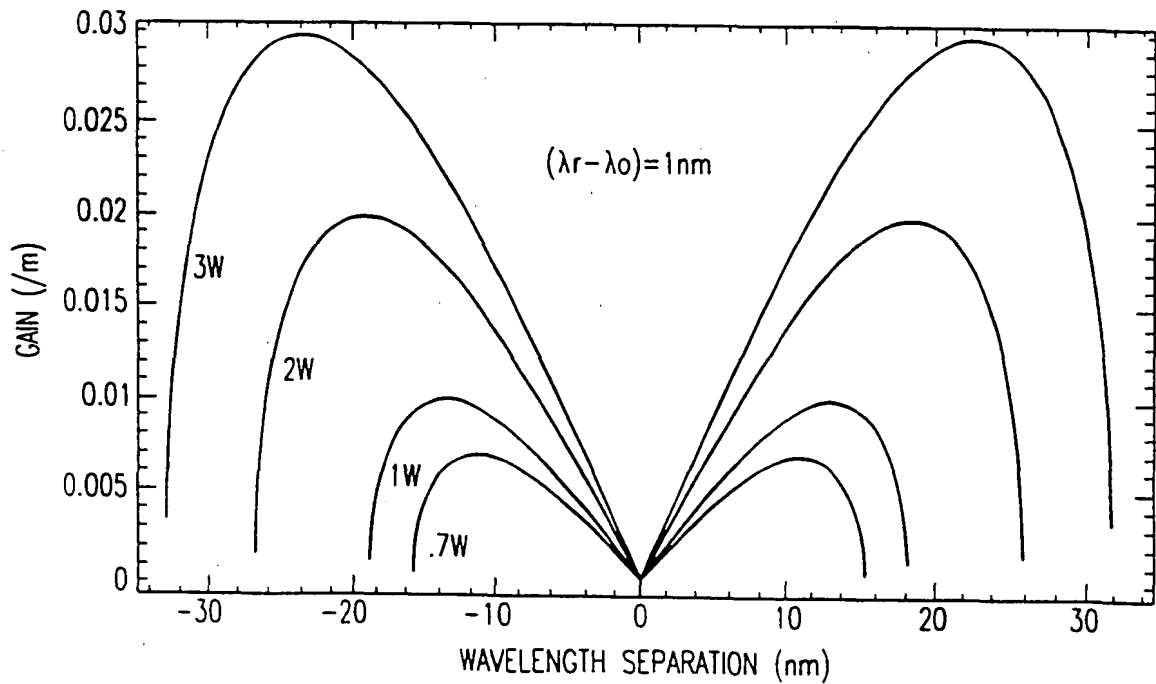


FIG.8

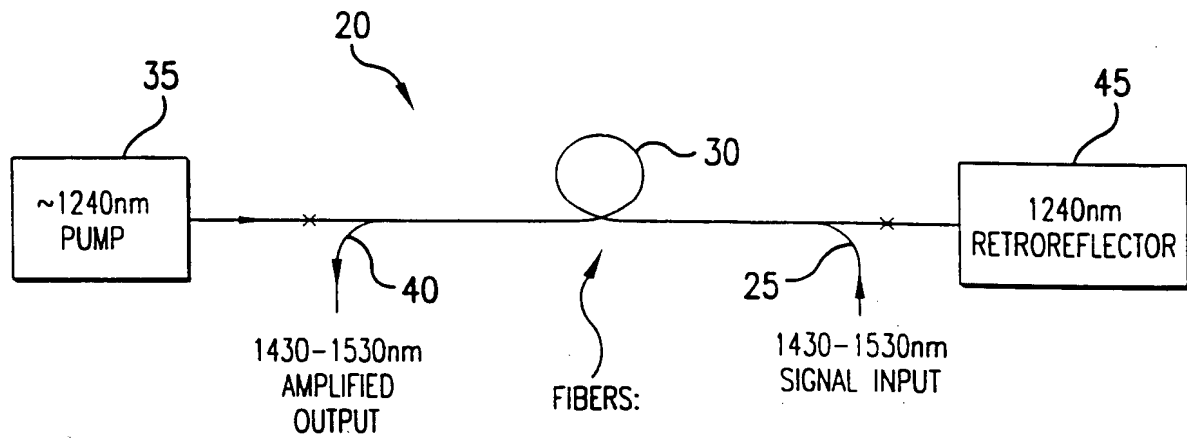


FIG. 9

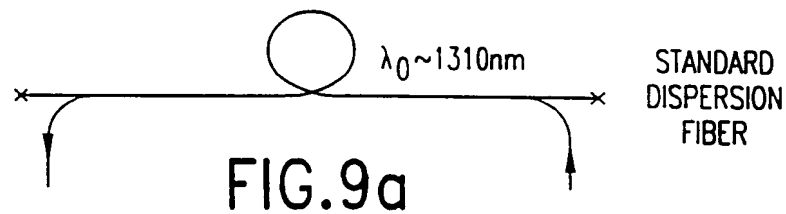


FIG. 9a

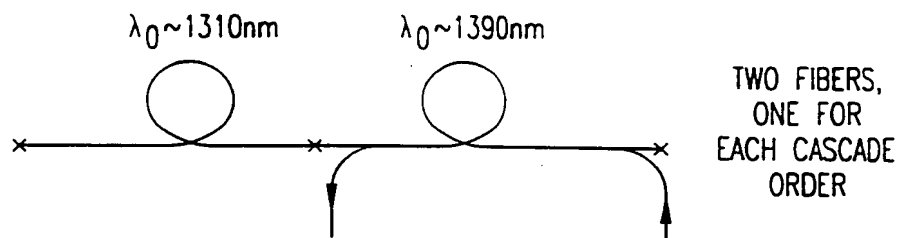


FIG. 9b

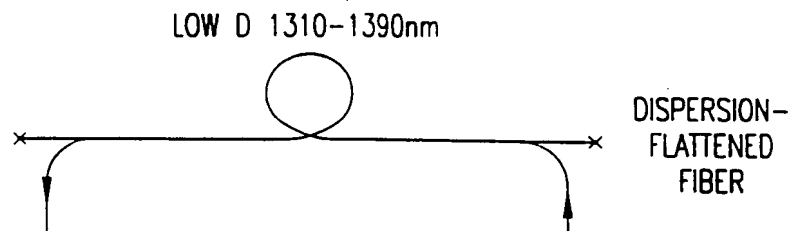


FIG. 9c

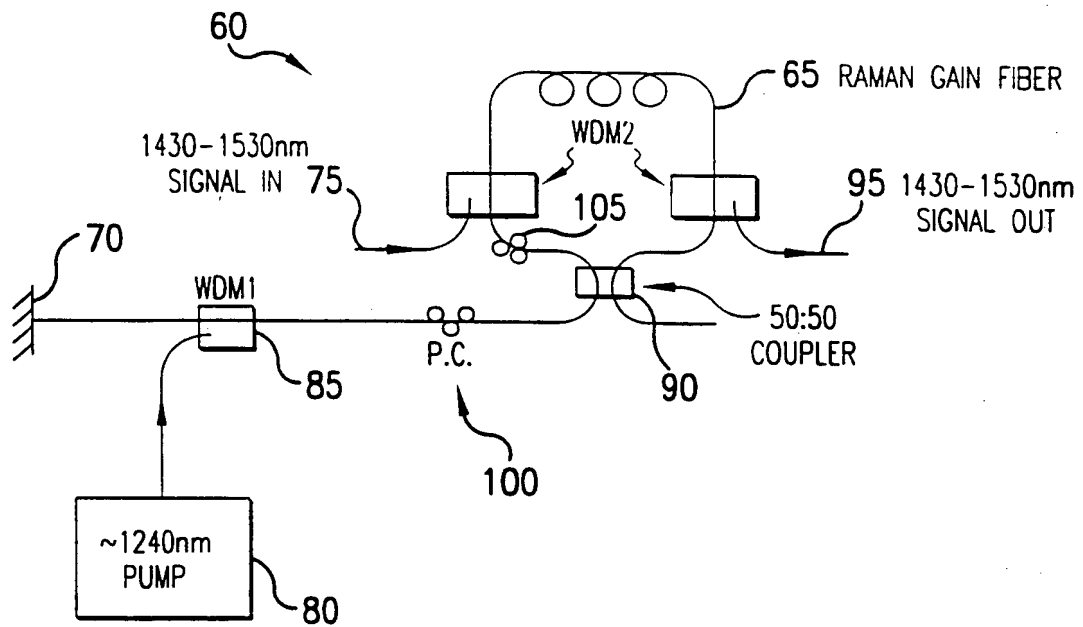


FIG.10

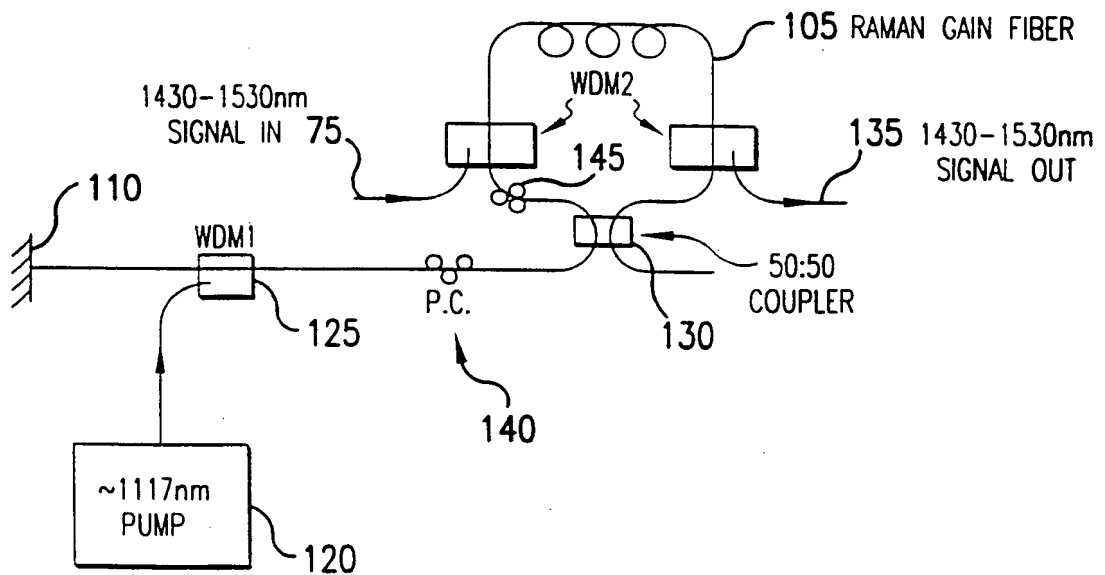


FIG.11

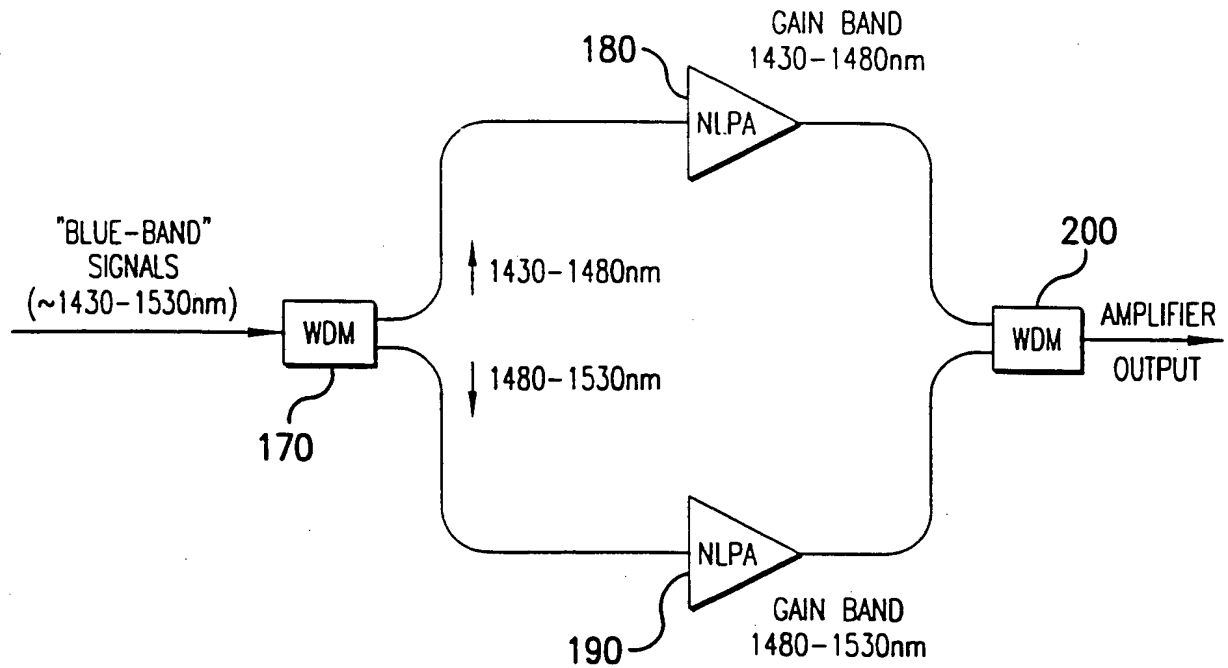


FIG.12

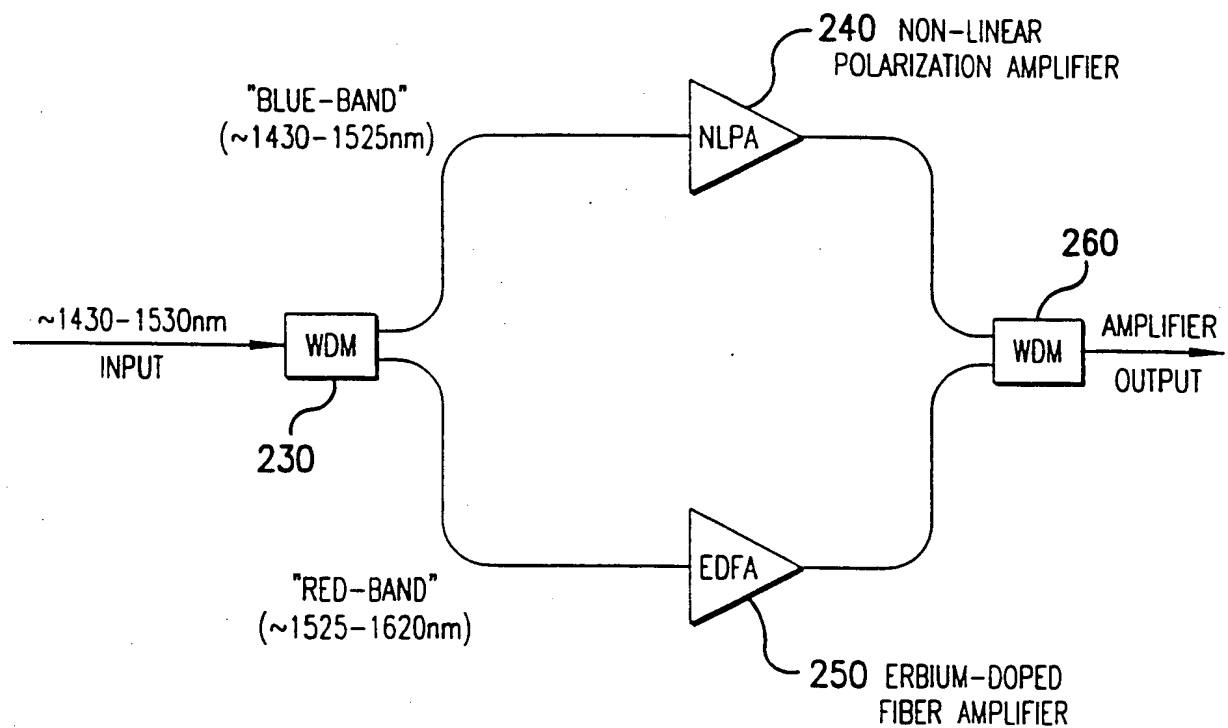
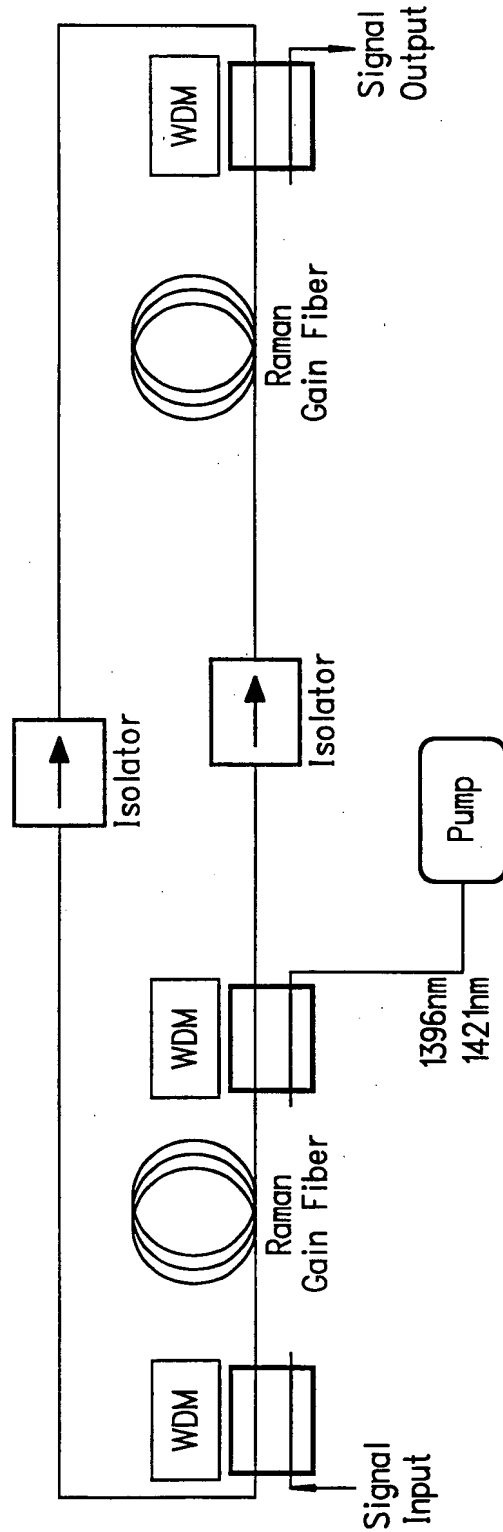


FIG.13

Dual Stage Amplifier Design



- First stage is a low noise preamp
- Second stage is power amp, depleting pump power
- Isolators reduce multi-path interference (MPI) from Double-Rayleigh scattering

FIG. 14

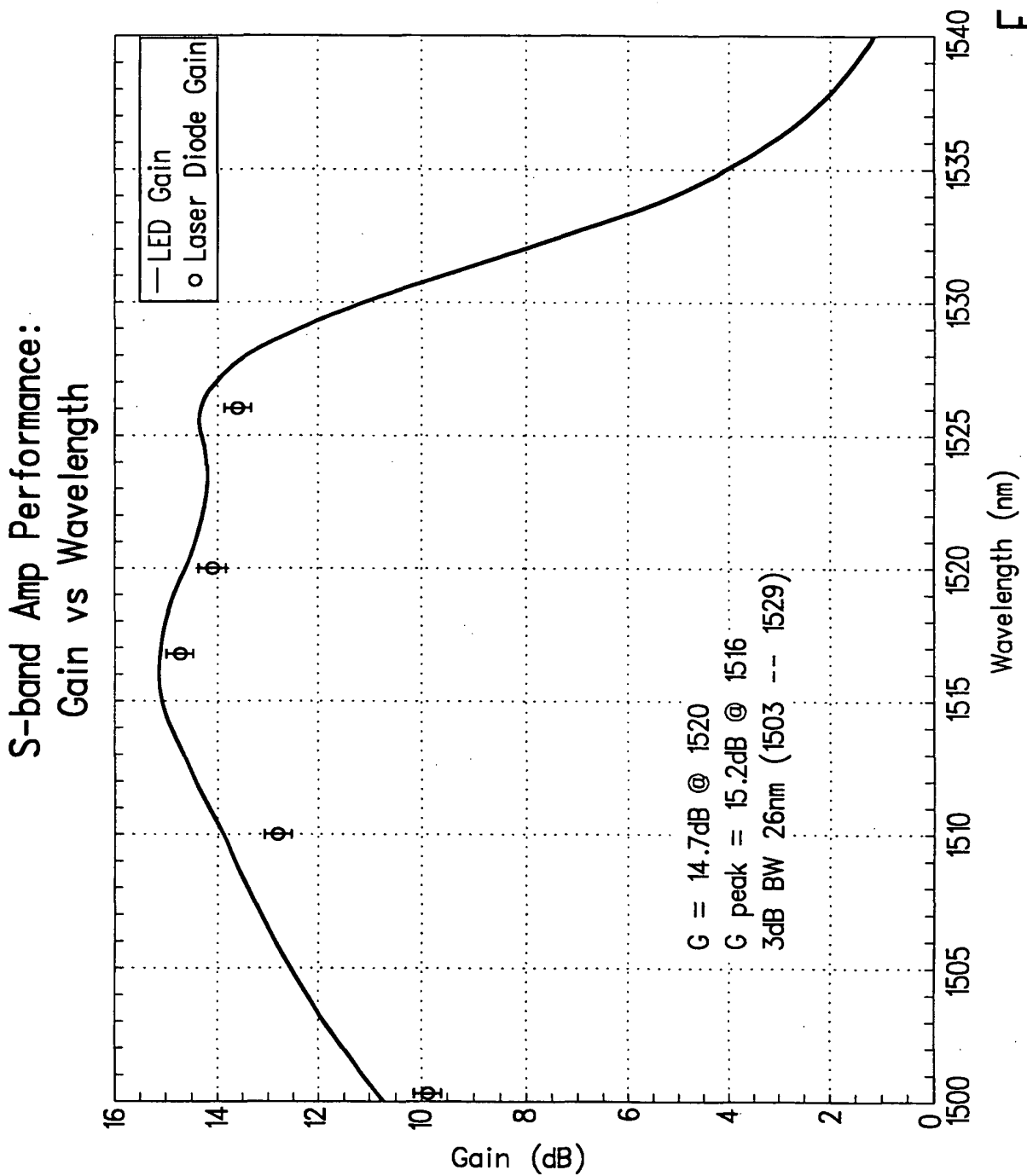


FIG. 15

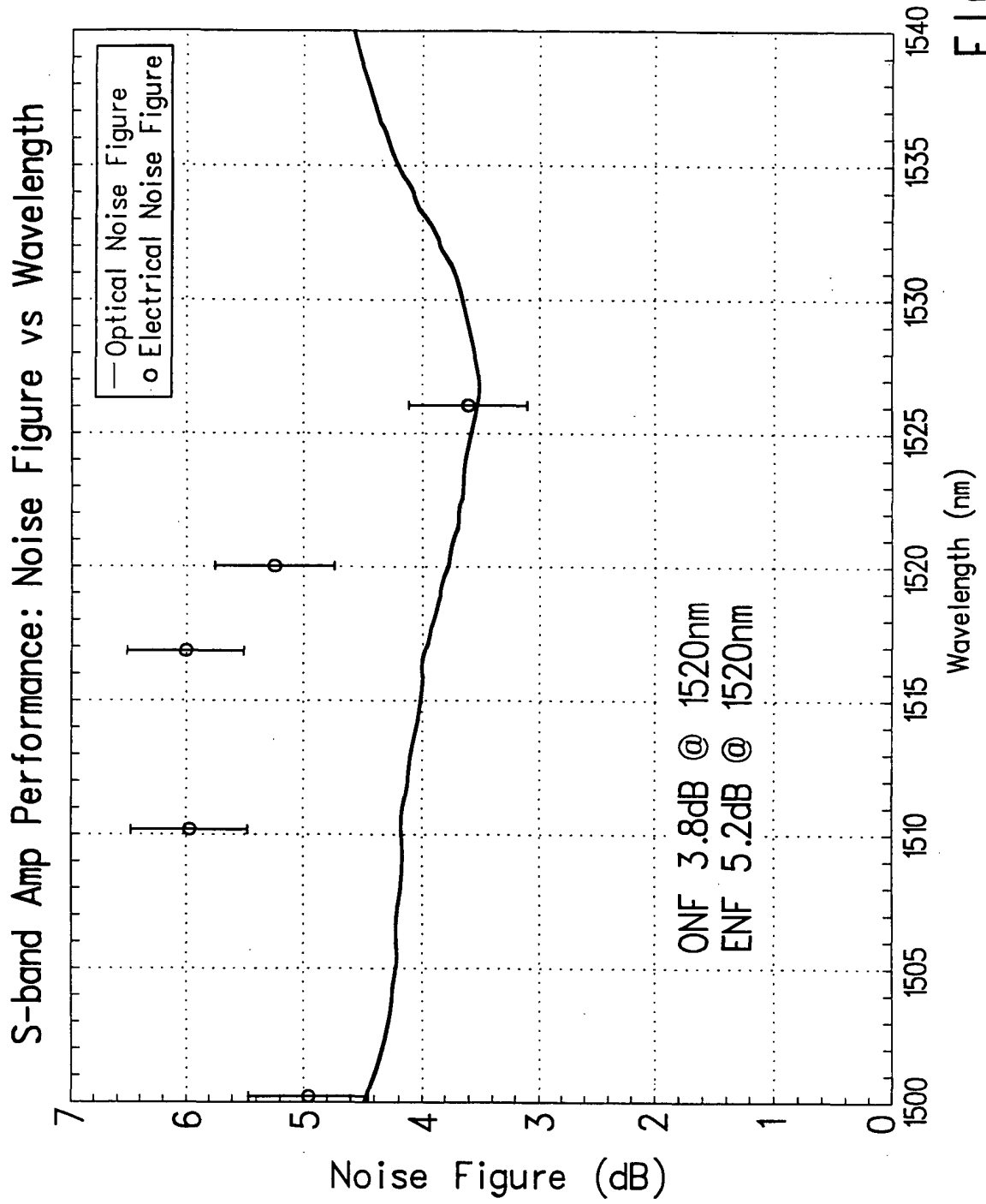


FIG. 16

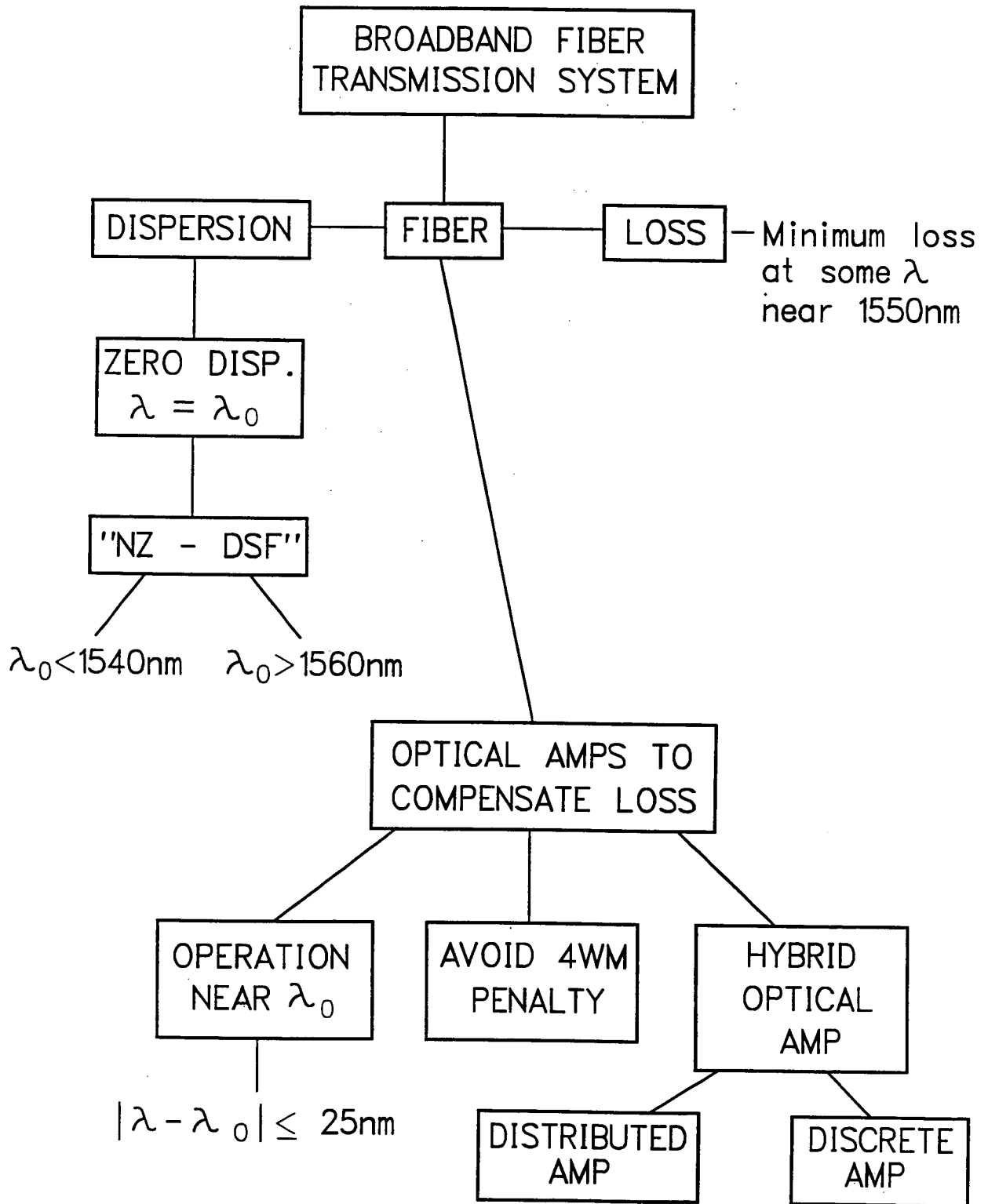


FIG. 17